

AUG 17 2006

Application No. 10/026,735 filed 27 December 2001
Response dated 17 August 2006
Responsive to Office Action dated 17 May 2006

Page 9 of 14

REMARKS

In this paper, the Applicant has amended claims 1-3 and 6-13 and has added new claims 14-18. The Applicant submits that these amendments and these new claims are completely supported by the application as originally filed and add no new matter.

Claims 1 and 12

The Examiner has raised US patent No. 6,449,279 (Belser et al.) in connection with claims 1 and 12. The Applicant submits that claims 1 and 12 (as amended) patentably distinguish Belser et al.

As understood, Belser et al. disclose a method and apparatus for connection-oriented switching in a communications network wherein a pre-established path is established between an ingress switch and an egress switch. The destination address (DA) and source address (SA) fields of a MAC frame data packet are replaced with a "virtual path identifier" which identifies the pre-established path between the ingress and egress switches. A "virtual circuit" identifier is provided in another field of the modified packet for demultiplexing the modified packet at the egress switch.

At col. 10, ln. 14-16, Belser et al. describes how the intermediate switches in a switch cloud of the Belser et al. network are configured with a pre-established virtual path between an ingress switch and an egress switch. A connect message is sent to all of the intermediate switches (i.e. the switches in the switch cloud between the ingress and egress switches) on the pre-established path to configure all of the switches on the path. The connect message contains an in order list of switch nodes and links in the path. In response to receiving the connect message, each intermediate switch on the path maps an entry in its corresponding "switching table" based on a "virtual path identifier". After pre-establishing the virtual path in this manner, data frames may be sent from the ingress switch to the egress switch along the virtual path. In Figure 4A and the accompanying description at col. 4, ln. 64-col.5, ln. 15, Belser et al. describe how data packet are modified at the ingress switch. Among other modifications, the SA and DA fields of the frame are replaced with a virtual path identifier. In Figure 4B and the accompanying description at col. 5, ln. 16-20, Belser et al. describe how the modified packets are processed at the intermediate switches

Application No. 10/026,735 filed 27 December 2001
Response dated 17 August 2006
Responsive to Office Action dated 17 May 2006

Page 10 of 14

along the virtual path. In particular, at each intermediate switch, "a look-up is performed based on the virtual path ID to determine the outport (step 61). Then the modified packet is forwarded from this out-port to the next switch (step 62)." For each intermediate switch, this look-up process uses the switching table entry created when the path was pre-established. The virtual path identifier contained in the modified packet is used as an index to the switching table.

On page 2 of the Office Action, the Examiner expresses the view that Belser et al. disclose (at col. 10, ln. 14-16) creating an entry in a shared forwarding database wherein the entry indicates that data addressed to an address should be source routed. The Examiner contends further that the Belser et al. "switching table" corresponds to the claim 1 "shared forwarding database". Claim 1, as amended, recites "creating an entry in the shared forwarding database, the entry indexed by an address and the entry indicating that data addressed to the address should be source routed." If the Examiner's allegation is true (i.e. that the claim 1 "shared forwarding database" corresponds to the Belser et al. "switching table"), then the claim 1 "address" must correspond to the Belser et al. "virtual path identifier", because the claim 1 shared forwarding database is indexed by the address and the Belser et al. switching table is indexed by virtual path identifier.

Claim 1 also recites the combination of "reading source routing data from the data frame, the source routing data independent of the address", "identifying a port, from among the plurality of ports, based at least in part the source routing data" and "sending the data frame to the identified port." Belser et al. do not disclose this combination of features. More specifically, Belser et al. fail to teach or suggest identifying an output port based on source routing data that is "independent of the address" as recited in claim 1. As discussed above, the Examiner's contention that the Belser et al. "switching table" corresponds to the claim 1 "shared forwarding database" necessarily implies that the Belser et al. "virtual path identifier" corresponds to the claim 1 "address". Belser et al. specifically describe that the output port of a switch is identified by reading the virtual path identifier (the alleged claim 1 address) from the modified packet and looking up the virtual path identifier (the alleged claim 1 address) in a switching table (see Figure 4B; col. 5, ln. 16-20). This aspect of Belser et al. teaches away from the claim 1 feature that the output port is identified based on source routing data that is "independent of the address".

Application No. 10/026,735 filed 27 December 2001
Response dated 17 August 2006
Responsive to Office Action dated 17 May 2006

Page 11 of 14

Claim 1, as amended, recites "receiving, at the bridge device, a data frame" and "reading source routing data from the data frame." (i.e. the claim 1 "source routing data" is read from a data frame received at the bridge device). The Examiner expresses the view that the source and destination address disclosed by Belser et al. at col. 2, ln. 48-50 represent the claim 1 "source routing data". This passage from Belser et al. describes how "the destination address (DA) and the source address (SA) fields in a MAC frame packet are replaced with the virtual path ID" at the ingress switch before the modified packet is sent to any of the intermediate switches. Accordingly, none of the intermediate switches disclosed by Belser et al. receive the destination address or the source address alleged to be the claim 1 "source routing data".

Claim 1 recites the combination of "providing a bridge device having a plurality of ports and a shared forwarding database" and "creating an entry in the shared forwarding database, the entry indexed by an address and the entry indicating that data addressed to the address should be source routed." As discussed above, the Examiner contends that the Belser et al. "switching tables" represent the claim 1 "shared forwarding database". Only the intermediate switches in the Belser et al. system are provided with "switching tables" that allegedly exhibit the characteristics of the claim 1 "shared forwarding database". Therefore, only the intermediate switches disclosed by Belser et al. could be the claim 1 "bridge device having ... a shared forwarding database". Since only the Belser et al. intermediate switches could be the claim 1 bridge device and none of the Belser et al. intermediate switches receive the destination address or the source address, it follows that neither the destination address nor the source address can be the claim 1 "source routing data" which is recited to be received in a data frame at the bridge device.

Based on this reasoning, the Applicant submits that claim 1 patentably distinguishes Belser et al. Claim 12 depends from claim 1 and is submitted to be patentable over Belser et al. for at least this reason.

Claim 13

The Examiner has raised Belser et al. in connection with claim 13. The Applicant submits that claim 13 patentably distinguishes Belser et al.

Application No. 10/026,735 filed 27 December 2001
Response dated 17 August 2006
Responsive to Office Action dated 17 May 2006

Page 12 of 14

The Examiner expresses the view (on page 3 of the Office Action) that the Belser et al. "switching table" corresponds to the claim 13 "shared forwarding database". As discussed above in relation to claim 1, the Belser et al. switching table relates virtual path identifiers to output ports (i.e. the Belser et al. switching table is indexed by virtual path identifiers). Belser et al. specifically describe that the output port of a switch is identified by reading the virtual path identifier from a modified packet received at an intermediate switch and looking up the virtual path identifier in a switching table (see Figure 4B; col. 5, ln. 16-20). The modified packet is then routed to the output port so identified.

Claim 13 recites that the shared forwarding database is indexed by address information (i.e. the addresses associated with the plurality of first records and a corresponding second address associated with the at least one second record). Claim 13 also recites the combination of "the bridge being configured to respond to receipt of a data frame addressed to the corresponding second address by: ... reading source routing information from the data frame, the source routing information independent of the corresponding second address" and "forwarding the data frame to one of the bridge ports based upon the source routing information." This claim 13 combination specifies that the "source routing information" used as a basis for routing an incoming data frame addressed to the second address is read from the data frame and is "independent of the corresponding second address". Thus, according to claim 13 the information used to index the claim 13 shared forwarding database (i.e. address information) and the information used to route the incoming frame (i.e. source routing information) are different. This aspect of claim 13 contrasts directly from Belser et al., which discloses reading the virtual path identifier from the modified packet and using the same virtual path identifier as an index to the switching table containing the output port to which the incoming frame should be routed. Belser et al. fail to teach or suggest "source routing information" that is independent of the virtual path identifier used to index the "switching table".

Based on this reasoning, the Applicant submits that claim 13 patentably distinguishes Belser et al.

AUG 17 2006

Application No. 10/026,735 filed 27 December 2001
Response dated 17 August 2006
Responsive to Office Action dated 17 May 2006

Page 13 of 14

Claims 2-11

The Examiner has raised:

- (i) the combination of Belser et al. and US patent No. 5,825,772 (Dobbins et al.) in connection with claims 2-3 and 8-11;
- (ii) the combination of Belser et al. and US patent No. 6,438,133 (Ervin et al.) in connection with claim 4;
- (iii) the combination of Belser et al. and US patent No. 5,892,903 (Klaus) in connection with claim 5;
- (iv) the combination of Belser et al., Klaus and US patent No. 6,526,066 (Weaver) in connection with claim 6; and
- (v) the combination of Belser et al. and Weaver in connection with claim 7.

The Applicant submits that claims 2-11 patentably distinguish the cited references.

Claims 2-11 depend from claim 1. As discussed above, Belser et al. do not disclose or suggest the claim 1 combination of "creating an entry in the shared forwarding database, the entry indexed by an address and the entry indicating that data addressed to the address should be source routed; reading source routing data from the data frame, the source routing data independent of the address; identifying a port, from among the plurality of ports, based at least in part on the source routing data." Dobbins et al., Ervin et al., Klaus, and Weaver fail to remedy this deficiency.

Accordingly, claims 2-11 are submitted to patentably distinguish the cited references.

New Claims 14-18

The Applicant has added new claims 14-18 for which patent protection is sought. New claims 14-18 are submitted to be completely supported by the application as filed and to add no new matter.

Application No. 10/026,735 filed 27 December 2001
Response dated 17 August 2006
Responsive to Office Action dated 17 May 2006

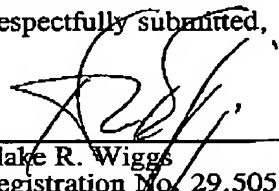
Page 14 of 14

Conclusions

The Applicant submits that the foregoing amendments place this application in condition for allowance. Reconsideration and allowance of this application is therefore respectfully requested.

Respectfully submitted,

By:



Blake R. Wiggs
Registration No. 29,505
tel: 604.669.3432
fax: 604.681.4081
e-mail: TARdocket@patentable.com

Vancouver, B.C.
CANADA